



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/759,782

01/16/2004

Richard L. Marks

SONYP030

8149

25920

7590

03/10/2009

MARTINE PENILLA & GENCARELLA, LLP

710 LAKEWAY DRIVE

SUITE 200

SUNNYVALE, CA 94085

EXAMINER

DHARIA, PRAEODH M

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

03/10/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/759,782

Applicant(s)

MARKS, RICHARD L.

Examiner

PRABODH M. DHARIA

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-18 and 34-50 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 19-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-18 and 34-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. **Status:** Please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted on 01-26-2009 under amendments and request for reconsideration, which have been placed of record in the file. Claims 1-7, 9-17 and 34-50 are pending in this action. Claims 8 and 18-33 are cancelled.

Response to Amendment

2. The amendment filed 01-26-2009 does not introduce any new matter into the disclosure. The added material is supported by the original disclosure. Applicant arguments regarding USC 112, first paragraph regarding new matter are persuasive. Therefore the USC 112 paragraph and new matter rejection and objection are withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 11 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girod (US 6,677,987 B1) in view of Stam; Joseph S et al. (US 6587573 B1).

Regarding Claim 1, Girod (US patent 6,677,987) discloses a method for triggering input commands of a program run on a computing system (Col. 1, Lines 43-45), comprising:
monitoring a field of view in front of an image capture device that is placed in a direction of a

display screen (Col. 4, Lines 33-35); identifying a light source within the field of view (Col. 4, Lines 36,37), the light source being pointed in the direction of the image capture device (Fig. 1, reference 108, fig. 2, reference 204, Col. 4, Lines 31-37); tracking the light source as it is pointed toward the display screen (fig. 1, reference 102,108, Col. 4, lines 36-40), the display screen illustrating objects that can be interacted with; detecting a change in light emitted from the light source (Col. 7, Lines 15-18); and in response to detecting the change, triggering an input command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen (Col. 3, Lines 48-57).

However, Girod (US patent 6,677,987) fails to disclose the identifying being done from a defocused image produced by the image capture device, such that defocusing the image capture device produces an expanded region of pixels around the light source; tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking.

However, Stam; Joseph S et al. (US 6587573 B1) disclose the identifying being done (Col. 3, Lines 19-30, discloses an image capturing system captures the image and identifies the light source) from a defocused image produced by the image capture device (Col. 11, Lines 8-56, discloses image capturing device defocuses the blocks of the pixels to identify light source please see Col. 11, Line 57 to Col. 12, Line 18 discloses total detail procedure to achieve defocusing), such that defocusing the image capture device produces an expanded region of pixels around the light source (Col. 11, Lines 8-56 discloses 2X2 pixel blocks where as Col. 31, Lines 51-56 discloses 3X3 pixel blocks to identify light source); tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify

the light source during the tracking (Col. 27, Line 12 to Col. 28, Line 5 discloses tracking the light source using pixel values and identify the light source, further Col. 28-31, discloses detail operation of the identifying of the light source using pixels value by microprocessor and further triggering the program to control vehicles the lighting operation).

The reason to combine is by defocusing the distorted wavefronts allows to calculate compensation that produces near best resolution focused images and any interference effect from environmental ambient light is reduced or eliminated, and able to trigger accurately an input command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Stam; Joseph S et al. (US 6587573 B1) in the teaching of Girod (US patent 6,677,987) to be able to have image capturing device that is defocus to address distorted wavefronts and calculate compensation to generate high resolution near best focus images and any interference effect from environmental ambient light is reduced or eliminated, and able to trigger accurately an input command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen (please see Col. 11, Lines 8-56 and Col. 27 to Line 12 Col. 28, Line 5 and for detail operation please see Col. 28-31). Prior art of Stam; Joseph S et al. (US 6587573 B1) is in the field of applicant's endeavor and also reasonably pertinent to the particular problem with which the applicant was concerned, "the identifying being done from a defocused image produced by the image capture device, such that defocusing the image capture device produces an expanded region of pixels around the light source; tracking the light source as it is moved, the

expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking”. Therefore the combination does teach applicant’s claimed invention and therefore they do obviate.

Regarding Claim 2, Girod (US patent 6,677,987) discloses the change in light is one of a color change, and a light variation change (Col. 4, Lines 2-15).

Regarding Claim 3, Girod (US patent 6,677,987) discloses the light source is a light emitting diode (LED) capable of emitting multiple colors of light (Col. 4, Lines 2-15).

Regarding Claim 4, Girod (US patent 6,677,987) discloses the method operation of identifying a light source within the field of view includes, masking background light effects within the field of view (Col. 5, Lines 9-12, Col. 4, Lines 12-15).

Regarding Claim 5, Girod (US patent 6,677,987) discloses the method operation of masking background light effects within the field of view includes, reducing an amount of light allowed into an aperture of the image capture device (Col. 4, Lines 12-15, by varying light modulation, Col. 5, Lines 9-12, Col. 7, Lines 8-22).

Regarding Claim 11, Girod (US patent 6,677,987) discloses a method for detecting input commands from an input source (Col. 1, Lines 43-45) within a field of sight of an image capture device positioned at a display screen (Col. 4, Lines 43-45), comprising: minimizing an amount of

light entering the image capture device (fig. 1, reference 102,108, Col. 4, lines 31-40); detecting a first color light from the input source through the image capture device (Col. 4, Lines 12-15, by varying light modulation, Col. 5, Lines 9-12, Col. 7, Lines 8-22) the first color light being directed toward the display screen and the image capture device (Col. 3, Line 58 to Col. 4, Line15), such that directing the first color toward the display screen enables interactive movement of a cursor on the display screen; detecting a change from the first color light to a second color light (Col. 3, Line 58 to Col. 4, Line15, Col. 4, Lines 12-15, by varying light modulation, Col. 5, Lines 9-12, Col. 7, Lines 8-22); and presenting a mode change in response to changing to the second color light, the mode change operating to cause an action On one or more objects being illustrated on the display screen the change in the first color light signal (Col. 4, Lines 12-15, by varying light modulation, Col. 5, Lines 9-12, Col. 7, Lines 8-22, Col. 3, Line 20 to Col. 4, Line15).

However, Girod (US patent 6,677,987) fails to disclose the identifying being done from a defocused image produced by the image capture device, such that defocusing the image capture device produces an expanded region of pixels around the light source; tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking.

However, Stam; Joseph S et al. (US 6587573 B1) disclose the identifying being done (Col. 3, Lines 19-30, discloses an image capturing system captures the image and identifies the light source) from a defocused image produced by the image capture device (Col. 11, Lines 8-56, discloses image capturing device defocuses the blocks of the pixels to identify light source please see Col. 11, Line 57 to Col. 12, Line 18 discloses total detail procedure to achieve

defocusing), such that defocusing the image capture device produces an expanded region of pixels around the light source (Col. 11, Lines 8-56 discloses 2X2 pixel blocks where as Col. 31, Lines 51-56 discloses 3X3 pixel blocks to identify light source); tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking (Col. 27, Line 12 to Col. 28, Line 5 discloses tracking the light source using pixel values and identify the light source, further Col. 28-31, discloses detail operation of the identifying of the light source using pixels value by microprocessor and further triggering the program to control vehicles the lighting operation).

The reason to combine is by defocusing the distorted wavefronts allows to calculate compensation that produces near best resolution focused images and any interference effect from environmental ambient light is reduced or eliminated, and able to trigger accurately an input command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Stam; Joseph S et al. (US 6587573 B1) in the teaching of Girod (US patent 6,677,987) to be able to have image capturing device that is defocus to address distorted wavefronts and calculate compensation to generate high resolution near best focus images and any interference effect from environmental ambient light is reduced or eliminated, and able to trigger accurately an input command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen (please see Col. 11, Lines 8-56 and Col. 27 to Line 12 Col. 28, Line 5 and for detail operation please see Col. 28-31). Prior art of Stam; Joseph S et al. (US 6587573 B1) is in

the field of applicant's endeavor and also reasonably pertinent to the particular problem with which the applicant was concerned, "the identifying being done from a defocused image produced by the image capture device, such that defocusing the image capture device produces an expanded region of pixels around the light source; tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking". Therefore the combination does teach applicant's claimed invention and therefore they do obviate.

Regarding Claim 34, Girod (US patent 6,677,987) discloses a computing system, comprising: an image capture device being positioned in a direction of a display screen (Col. 3, Lines 21-60); logic for monitoring a field of view associated with the image capture device; logic for tracking a position of a light source associated with an input object, the light source being pointed toward the display screen (Col. 3, Lines 21-60, Col. 4, Lines 31-40, Col. 5, Line 66 to Col. 6 Line 15); logic for detecting a color change in the light source; and logic for triggering a mode change command at a main program run through the computing system (Col. 5, Line 66 to Col. 6, Line 58, please see abstract, Col. 3, Lines 21-60, Col. 4, Lines 31-40, Col. 1, Line 44-50 and Claim 11 and 12), in response to the detected color change in the light source, the mode change triggering an action for interfacing with one or more objects illustrated on the display screen, the color change being from a first color to a second color, and discontinuing the mode change command when the color change in the light reverts to an initial color or another color (Col. 3, Lines 21-60, Col. 4, Lines 31-40, Col. 5, Line 66 to Col. 6 Line 15).

Further regarding Claim 34, Girod (US patent 6,677,987) fails to disclose the identifying being done from a defocused image produced by the image capture device, such that defocusing the image capture device produces an expanded region of pixels around the light source; tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking.

However, Stam; Joseph S et al. (US 6587573 B1) disclose the identifying being done (Col. 3, Lines 19-30, discloses an image capturing system captures the image and identifies the light source) from a defocused image produced by the image capture device (Col. 11, Lines 8-56, discloses image capturing device defocuses the blocks of the pixels to identify light source please see Col. 11, Line 57 to Col. 12, Line 18 discloses total detail procedure to achieve defocusing), such that defocusing the image capture device produces an expanded region of pixels around the light source (Col. 11, Lines 8-56 discloses 2X2 pixel blocks where as Col. 31, Lines 51-56 discloses 3X3 pixel blocks to identify light source); tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking (Col. 27, Line 12 to Col. 28, Line 5 discloses tracking the light source using pixel values and identify the light source, further Col. 28-31, discloses detail operation of the identifying of the light source using pixels value by microprocessor and further triggering the program to control vehicles the lighting operation).

The reason to combine is by defocusing the distorted wavefronts allows to calculate compensation that produces near best resolution focused images and any interference effect from environmental ambient light is reduced or eliminated, and able to trigger accurately an input

command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Stam; Joseph S et al. (US 6587573 B1) in the teaching of Girod (US patent 6,677,987) to be able to have image capturing device that is defocus to address distorted wavefronts and calculate compensation to generate high resolution near best focus images and any interference effect from environmental ambient light is reduced or eliminated, and able to trigger accurately an input command at the program run on the computing system, the input command acting to interface with one or more objects illustrated on the display screen (please see Col. 11, Lines 8-56 and Col. 27 to Line 12 Col. 28, Line 5 and for detail operation please see Col. 28-31). Prior art of Stam; Joseph S et al. (US 6587573 B1) is in the field of applicant's endeavor and also reasonably pertinent to the particular problem with which the applicant was concerned, "the identifying being done from a defocused image produced by the image capture device, such that defocusing the image capture device produces an expanded region of pixels around the light source; tracking the light source as it is moved, the expanded region of pixels around light source increasing pixel data usable to identify the light source during the tracking". Therefore the combination does teach applicant's claimed invention and therefore they do obviate.

5. Claims 6,11,17,39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girod (US 6,677,987 B1) in view of Stam; Joseph S et al. (US 6587573 B1) as applied to claims 1-5 and 34 above and further in view of Curran et al. (US 6,753,849 B1).

Regarding Claim 6, Girod (US 6,677,987 B1) modified by Stam; Joseph S et al. (US 6587573 B1) fails to disclose the input command causes a mode change linked to a cursor displayed on the display screen associated with the computing system.

However, Curran et al. discloses the input command causes a mode change linked to a cursor displayed on a display screen associated with the computing system (Col. 3, Line 12 to Col. 4, Line 19 during the mouse mode different position of the cursor selected by the light variation, and similarly in television mode similar light variation determines channels and program for television using microprocessor (Col. 8, Lines 7-40, Col. 9, Line 30 to Col. 10, Line 67).

The reason to combine Girod (US 6,677,987 B1) fails to disclose a specific method of activating a specific operation by triggering by detecting light variation in a light emitting input device. However, Curran does disclose a remote for a TV where user not only watches TV programming but also has computer mouse operation available to operate and select randomly any specific programming selected from menu presented on the screen by dragging, dropping or moving cursor any where on the screen.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Curran et al. in the teaching of Girod (US 6,677,987 B1) modified by Stam; Joseph S et al. (US 6587573 B1) to be able to have user friendly TV system not only user can watch different programming but also play video game.

Regarding Claim 17, Curran et al. teaches the mode change is associated with one of a click and drag operation and a highlighting operation (Col. 8, Lines 7-24).

Regarding Claim 39, Curran et al. the logic for correlating the movement of the light source to movement of a cursor on the display screen includes, logic for adjusting a scale associated with translation of the movement of the light source to the movement of the cursor according to a distance of a user relative to the image capture device (Col. 3, Line 30 to Col. 4, Line 19, Col. 5, Lines 9-23).

6. Claims 7, 9, 10, 12-16, 18, 35-38, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girod (US patent 6,677,987) modified by Stam; Joseph S et al. (US 6587573 B1) and Curran et al. (US 6,753,849 B1) as applied to claims 1-6, 11, 17, 34, 39 and 41-47 above and further in view of Pryor (US 2006/ 0033713 A1).

Regarding Claim 7, Curran et al. discloses operation of identifying a light source within the field of view includes, defining an area representing the light source within a grid associated with the image capture device; and expanding the area representing the light source within the grid (Col. 3, Line 42 to Col. 4, Line 19, discloses how vertical and horizontal masking is organized to create grid type environment).

However, Girod (US patent 6,677,987) modified by Stam; Joseph S et al. (US 6587573 B1) and Curran et al. (US 6,753,849 B1) fails to disclose operation of identifying a light source within the field of view includes, defining an area representing the light source within a grid associated with the image capture device; and expanding the area representing the light source within the grid.

However, Pryor discloses operation of identifying a light source within the field of view includes, defining an area representing the light source within a grid associated with the image capture device; and expanding the area representing the light source within the grid (page 37, paragraph 657, pages 21,22, paragraphs 390,397).

The reason to combine LED or IR devices need specific path for light to travel to achieve accuracy and avoid all the neighbor devices or environmental interference. The ring with LED let user point more accurately than a regular remote controller.

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of Pryor in the teaching of Girod (US patent 6,677,987) modified by Stam; Joseph S et al. (US 6587573 B1) and Curran et al. (US 6,753,849 B1) be able to have user friendly remote like a ring that fits on the finger to be able to pint and have a path for light to travel to achieve accuracy and avoid all the neighbor devices or environmental interference.

Pryor discloses operation of expanding the area representing the light source within the grid includes, defocusing the image capture device relative to the light source (page 37, paragraph 657, pages 21,22, paragraphs 390,397, page 38, paragraph 676).

Regarding Claim 9, Pryor discloses operation of identifying a light source within the field of view includes, calculating a centroid of an image representing the light source through a grid associated with the image capture device (page 37, paragraph 657, pages 21,22, paragraphs 390,397, page 20, paragraph 373, page 8, paragraph 177, page 23, paragraph 414).

Regarding Claim 10, Pryor discloses translating coordinates of the centroid to a location on a display screen associated with the computing system; detecting movement of the light source within the field of view; and correlating the movement of the light source to movement of a cursor on the display screen (page 37, paragraph 657, pages 21, 22, paragraphs 390,397, page 20, paragraph 373, page 8, paragraph 177, page 23, paragraph 414 page 13, paragraph 242, page 19, paragraph 365).

Regarding Claim 12, Pryor discloses minimizing an amount of light entering an image capture device includes, reducing an aperture size (or filtering the light) of the image capture device to enhance a signal representing light from the input source relative to other captured image data (page 8, paragraphs 177,178 page 40, paragraphs 693-705, page 34, paragraph 599, by filtering the light).

Regarding Claim 13, Pryor does disclose operation of reducing an aperture size of the image capture device results in filtering background light capable of interfering with light received from the input device (page 40, paragraphs 693-705, page 34, paragraph 599).

Regarding Claim 14, Pryor teaches operation of detecting a first color light signal from the light source through the image capture device includes, determining a location of a center of the first color light signal on a coordinate system associated with the image capture device; and mapping the location to a corresponding location on a display screen (page 37, paragraph 657,

pages 21,22, paragraphs 390,397, page 20, paragraph 373, page 8, paragraph 177, page 23, paragraph 414 page 13, paragraph 242, page 19, paragraph 365).

Regarding Claim 15, Pryor teaches operation of detecting a change from the first color light to a second color light includes, detecting the second color light from the input source; and comparing pixel values associated with the first color light to pixel values associated with the second color light (pages 8,9, paragraphs 176-186).

Regarding Claim 16, Pryor teaches reverting to the first color light from the second color light; and in response to reverting to the first color light, terminating the mode change (page 20, paragraph 372, page 7, paragraphs 148-151, 153).

Regarding Claim 18, Pryor teaches the first color light and the second color light originate from one of a single light emitting diode and multiple light emitting diodes (page 40, paragraph 705, page 4, paragraph 95).

Regarding Claim 35, Pryor teaches the computing system is one of a game console, a general computer, networked computer, and a distributed processing computer (page 4, paragraphs 102, page 5, paragraphs 105,108, page 14, paragraphs 267-272).

Regarding Claim 36, Pryor teaches the logic for detecting a color change in the light source includes logic for detecting a change in a pixel value associated with the light source; and

logic for detecting a change in a position of the light source relative to the image capture device (pages 8, 9, paragraphs 176-186).

Regarding Claim 37, Pryor teaches each logic element is one or a combination of hardware and software (pages 14, 15, paragraph 272, page 28, paragraph 491, page 29, paragraph 510, it is well known to one ordinary skill in the art, as in order to develop game system or networking the hardware and software both will have plenty of logic to achieve objective).

Regarding Claim 38 Pryor teaches the logic for detecting a change in a position of the light source relative to the image capture device includes, logic for calculating a centroid of an image representing the light source through a grid associated with the image capture device. logic for translating coordinates of the centroid to a location on a display screen associated with the computing system; logic for detecting movement of the light source within the field of view; and logic for correlating the movement of the light source to movement of a cursor on the display screen (page 8, paragraphs 177,178 page 40, paragraphs 693-705, page 34, paragraph 599, page 37, paragraph 657, pages 21,22, paragraphs 390,397, page 20, paragraph 373, page 23, paragraph 414 page 13, paragraph 242, page 19, paragraph 365).

Regarding Claim 40 Pryor teaches logic for minimizing an amount of light entering the image capture device in order to mask background light not associated with the light source (page 8, paragraphs 177,178 page 40, paragraphs 693-705, page 34, paragraph 599).

Response to Arguments

7. Applicant's arguments, see remark, filed 01-26-2009, with respect to the rejection(s) of claim(s) 1-5 and 34 under 35 U.S.C. 103(a) as being unpatentable over Girod (US 6,677,987 B1) in view of Levine; Bruce M et al. (US 6709108 B2) and with respect to the rejection(s) of Claims 6,11,17,39 and 41-47 under 35 U.S.C. 103(a) as being unpatentable over Girod (US 6,677,987 B1) in view of Levine; Bruce M et al. (US 6709108 B2) and further in view of Curran et al. (US 6,753,849 B1) and Pryor (US 2006/ 0033713 A1) have been fully considered and are persuasive. However, upon further consideration, a new ground(s) of rejection is made in view of Stam; Joseph S et al. (US 6587573 B1).

Allowable Subject Matter

8. Claims 41-50 are allowed.

9. The following is an examiner's statement of reasons for allowance:

Applicant has amended independent claim 41 adding allowable limitations. The prior art of Girod (US 6,677,987 B1), Levine; Bruce M et al. (US 6709108 B2), Curran et al. (US 6,753,849 B1), Pryor (US 2006/ 0033713 A1) and Stam; Joseph S et al. (US 6587573 B1) with all the prior art listed on 892's, 1449's searched in PGPUB and NPL fails to recite or disclose all the other limitations of independent claims in combination with uniquely distinct features represented by underlined bold claim limitations recited below;

an image capture device having a diffuser, the diffuser configured to render defocused images by the image capture device so as to produce an expanded region of

pixels around a light of the LED, the expanded region of pixels increasing pixel data to identify the light of the LED, the image capture device being placed at a location of the display screen, the image capture device being configured to capture the LED of the input device when directed toward the display screen to enable interaction with illustrated objects as a result of the mode change, the mode change being a result of the LED of the input device changing from one color to another color, and the mode change being discontinued when the changing in light reverts back to an original color or another color, as triggered by the mode change activator of the input device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nayar, Shree K. et al. (US 20040070565 A1) Method and apparatus for displaying images.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668.

The examiner can normally be reached on M-F 8AM to 5PM.

12. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

/Prabodh M.Dharia/

Primary Examiner

AU 2629

March 03, 2009